VACCINATION INFORMATION AND RECOMMENDATIONS
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The safety and advisability of vaccinating our children has become a hot topic, and one of great importance. This handout was prepared to present reliable information, answer questions, provide encouragement, and perhaps spark more Christian enthusiasm for medical science drawn from history.

Christianity in action – science, health care, and vaccines.

Medical Historian H.E. Sigerist wrote that “Christianity came into the world as the religion of healing . . .”\(^1\) Christians pioneered and globally distributed modern hospitals (before which doctors were only for those rich enough for the house calls), orphanages (before which exposing unwanted babies to the elements was an accepted practice in the Roman Empire), hospices, and a vast number of medical mercy ministries.\(^{2345}\) J. Robert Oppenheimer (the atom bomb physicist) said modern science was born out of the Christian world-view.\(^6\) Mathematician-philosopher Alfred North Whitehead noted that Christianity was the mother of modern science because of “the medieval insistence on the rationality of God.”\(^7\) (Neither man was a believer.) Eminent Christian philosopher Alvin Plantinga concluded, "Modern science was conceived, and born, and flourished in the matrix of Christian theism.\(^8\)

Some Christian founders of their branches of science included Copernicus & Kepler (celestial mechanics), Francis Bacon (called “the major prophet of the scientific revolution”), Blaise Pascal (hydrostatics), Robert Boyle (chemistry), John Ray

\(^2\) http://www.britannica.com/EBchecked/topic/272626/hospital.
(natural history), George Culver (comparative anatomy), Lister (antiseptic surgery), Pasteur (bacteriology), and Mendel (genetics). There were more. Not bad at all.

Modern Bioethics had a solidly Christian foundation and was birthed in the mid-20\textsuperscript{th} Century to protect human dignity. Christian ethics became medical bioethics. Its architects were primarily believers like Edmund Pellegrino (Georgetown U., past head of the U.S. President’s Council on Bioethics), Paul Ramsey, and others.\textsuperscript{9}

The modern scientific enterprise, much of healthcare, and even vaccines themselves were launched largely by believers who understood that loving God and loving your neighbor were unified commandments, and that masterful use of our godly giftings was both an act of worship to God and a compassionate service to people. The first vaccination was developed by Dr. Edward Jenner, a devout Christian.\textsuperscript{10} In 1798 he published his research that administering fluid from a cowpox sore would immunize against smallpox. Vaccines are, in fact, a manifestation of God’s grace born out from members of his church for the blessing of humanity. We would be wise to partake.

\textbf{How do Vaccines work?}

We each have a God-given immune system that protects us, moment by moment, against infections and diseases. As we are exposed to a disease, our immune system naturally works to both defeat it and provide us with immunization against a future attack from it. However, some diseases can leave lasting damage or be life-ending. Vaccines contain killed or weakened (attenuated) \textbf{viruses or bacteria} (or portions of them) to trigger our immune systems to respond and develop immunity to that disease. Antibodies are produced that will attack the disease, and only that disease, the next time the virus or bacteria that causes it shows up in our body. Immunizations trigger a natural process. The idea is to use a weak or dead version of the virus or bacteria to protect us from the real deal. With vaccines we get the immunity without having to suffer the disease. According to the Center for Disease Control and Prevention (CDC), vaccines, depending on the type, can fail 1 to 5\% of the time. Sometimes a repeat dosing of the vaccine corrects that, and other times not. Boosters are needed from time to time for certain vaccines as well. Overall, the odds of protection and benefit are way in favor of the vaccinated child (and adult).

\textbf{What diseases are preventable through vaccinations?}

The CDC publishes a \textit{Parent’s Guide to Childhood Immunizations}, which lists the following as \textbf{vaccine-preventable diseases} (http://www.cdc.gov/vaccines/pubs/parents-guide/default.htm):

\textsuperscript{10} http://www.jennermuseum.com/Jenner/faq.html.
**Diphtheria** (a toxin-producing bacteria with a 10% rate of mortality).
**Haemophilus influenzae type b** (Hib; a cause of meningitis and pneumonia).
**Hepatitis A and B** (viral infections of the liver).
**Influenza** (flu; the top cause of loss of life from vaccine-preventable illness, especially in the elderly and very young).
**Measles** (can cause pneumonia, encephalitis, and is lethal for 1/1,000).
**Mumps** (usually mild, but can cause deafness, sterility or encephalitis, lethal 1/10,000).
**Pertussis** (whooping cough; can cause pneumonia, seizures and be lethal, particularly for the very young).
**Pneumococcal disease** (pneumonia, meningitis, ear infections, sinusitis, etc.).
**Polio** (formerly caused paralysis in 20,000 yearly in the USA before the vaccine).
**Rotavirus** (diarrhea and vomiting).
**Rubella** (German measles; risk to unborn babies with 80% rate of Congenital Rubella Syndrome including blindness, deafness, or worse).
**Tetanus** (lockjaw; 20% lethality).
**Varicella** (chickenpox; rarely may lead to encephalitis, higher risk in infants and the unborn at term; infection carries risk for shingles later in life).

The [CDC Parent’s Guide to Childhood Immunizations](https://www.cdc.gov/vaccines/hcp/pubs/ped-vacc-guide.pdf) contains a chart showing the **remarkable drop in disease rates since vaccines were introduced**. Diphtheria and Congenital Rubella Syndrome declined 100%; measles, mumps and rubella reduced over 99%; and tetanus fell 98%. Please note that the timing of the decline of these diseases corresponded to the use of vaccines and not the advent of improved sanitation, though obviously the introduction of modern sanitation was a great step forward for public health. A Colorado study found unvaccinated children have 22 times the rate of acquiring pertussis (whooping cough) compared to children vaccinated against it.\(^{11}\) A study of CDC data from 1985-1992, along with reports from states, showed non-vaccinated children were 35 times more likely to contract measles than those who were vaccinated.\(^{12}\)

**Which vaccines are considered routine and recommended?**

We can offer our children protection from fourteen diseases with these ten **routine childhood vaccines**:
**DTaP**: against Diphtheria, Tetanus & Pertussis.

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*Tdap* is for adolescents and adults; **California requires** it now for 7th-12th graders.

**MMR**: against Measles, Mumps & Rubella  
**HepA**: against Hepatitis A  
**HepB**: against Hepatitis B  
**Hib**: against *Haemophilus influenzae* type b (childhood meningitis, ear infections, sinusitis)  
**Flu**: against Influenza (not all of them, but those selected as most likely; these vary annually due to a high mutation rate in flu viruses).  
**PCV13**: against Pneumococcal disease (not all of them, but the most likely)  
**Polio**: against Polio  
**RV**: against Rotavirus  
**Varicella**: against Chickenpox

There are other vaccines out there, but they are not routinely recommended for elementary school children. These include:  
**Meningococcal** vaccine against meningitis is intended for those ages 11 to 18.  
**Rabies** vaccine if a person is bitten by a rabies-suspected animal.  
**Human papillomavirus (HPV)** vaccine is for girls 11-12 years old (but effective for ages 9 through 26) to help prevent cervical cancer and genital warts. It is given to boys and men ages 9 through 26 as well. Why give this vaccine to children we raise to abstain from intercourse until marriage? Three main reasons: (1) our children cannot account for their spouse's past, (2) the chance of sexual violence against our children, and (3) despite the best upbringing, our children might make bad choices (though we neither predict nor wish that). If you are already married and both you and your husband came to the alter as virgins, the reasons for the HPV vaccine would be protection from the virus in case of sexual violence (rape) or infidelity. **Other vaccines** exist for travel (*Yellow fever, Typhoid, Japanese encephalitis*).

**When are vaccines supposed to be given?**

A **vaccination schedule** is included in this packet for your convenience.  
Here is a link if you are reading this on the web:  
[http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm](http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm). The schedule is not arbitrary. Specific immunizations are recommended at certain times in a child’s young life due to the risk of those diseases in various age groups, the number of vaccines required in a specific series, and the ages when vaccines are most effective. However, there is flexibility in the schedule. Many vaccines show an age range during which each should be given. Combination vaccines exist which group certain immunizations as well.

**When should vaccines not be given?**

There are precautions and reasons to postpone or even contraindicate (reasons not to give) an immunization. If a child is currently ill, it is usually advised to wait until she/he recovers before being vaccinated. The two most common reasons listed in
the CDC guide against administering a certain immunization are not giving the flu vaccine to a child with a severe egg allergy and not giving live-virus-type vaccines to a child with a compromised immune system (due to infection, disease, or certain medication, for example). If a child has demonstrated a strong reaction to a given vaccination, no further of that type should be received. For a very detailed listing of which conditions, illness, allergies and such pose problems with specific vaccinations, the Guide to Vaccine Contraindications and Precautions is on the web at http://www.cdc.gov/vaccines/recs/vac-admin/downloads/contraindications-guide-508.pdf. As parents we should be careful to identify if such conditions are in our children, and to then inform the medical provider giving the inoculations.

What things are in a vaccine?

Again, vaccines contain killed or weakened (attenuated) viruses or bacteria (or portions of them). Adjuvants are part of some vaccines, and these are agents that cause a more forceful immune response. They are boosters. Preservatives keep a vaccine from spoiling or being contaminated. The manufacturing process can involve things like yeast or formaldehyde, but these are carefully filtered out. Specific items like mercury, aluminum, and formaldehyde (be they preservatives or part of the manufacturing process of some vaccines) remain in miniscule quantities. By miniscule, we mean less than people may take in daily from food, beverages, and other common exposures. Put another way, we get less toxic exposure from these few vaccinations than we may acquire every few days from normal life.

What can go wrong with vaccinations?

With killed or attenuated viral or bacterial immunizations a person cannot get the disease from the injection. The live-virus vaccines are also designed to not cause the disease. A child may well seem ill after some vaccinations, but it will be far milder than the disease the vaccine prevents. Likewise, the child’s immune system won’t be overwhelmed by the amount of vaccines given. After all, our immune systems may well fight off greater things every day. A 2010 study in the journal Pediatrics showed that infants receiving the full load of scheduled vaccinations showed no neuropsychological ill effects – no harm to their brains or minds -- even 10 years later.13 Vaccinations have over a half-century of track record – their benefits are extraordinary and their failures and harms few. All must be proven with extensive studies and are required to have Federal Drug Administration (FDA) approval.

The most common reactions are mild pain and/or swelling in the injection area and fever, which acetaminophen, ibuprofen or other non-aspirin pain reliever can treat.

Less commonly, **allergic reactions** happen, and rarely things like seizures, or exceedingly rarely brain injury (encephalopathy) can occur. Of the few seizures that occur, most are **febrile seizures**, which are simply benign convulsions (though they look scary) caused by the fever itself. Even without vaccinations, febrile seizures actually occur at least once in about 4% of all children less than 3 years of age from regular fever-causing infections. Febrile seizures are not the same as seizure disorders like epilepsy, and they do not lead to them, but in a small percentage of children they do uncover an underlying seizure disorder. However, let your doctor decide if a seizure is merely a febrile seizure or not by seeking medical attention if a seizure occurs.

**Allergic or severe reactions**, when they do occur, tend to happen within minutes to a few hours after a vaccine if given. In the rare occasion that something severe does happen, contact your physician, vaccination clinic, or emergency care center. Examples would be high fevers (104 degrees F or more) that won’t go down with Motrin or Tylenol, lowered consciousness, seizures (again, let the doctor determine if it is a simple febrile seizure or not), crying lasting over 3 hours, trouble breathing, large areas of swelling (not just in the region of the injection), or if you are not sure that a situation is safe. The government has set up both the Vaccine Adverse Event Reporting System ([http://vaers.hhs.gov/index](http://vaers.hhs.gov/index)), which your doctor or vaccination clinic will usually deal with for you, and the Vaccine Injury Compensation Program ([http://www.hrsa.gov/vaccinecompensation](http://www.hrsa.gov/vaccinecompensation)) to help in such cases. The point is that careful tracking of possible vaccine reactions has been ongoing to protect us all.

**What about the autism link?**

In 1998 the British journal *Lancet* published a study suggesting that the MMR vaccine might cause autism. In 2010 *Lancet* published a formal retraction of the research. A 2004 consensus report of the Institute of Medicine of the National Academies concluded that review of all available studies on the subject found no relationship between autism and either MMR vaccine or the mercury compound thimerosal-containing vaccines. A 2010 study by the CDC had the same findings, namely no association between thimerosal/mercury-containing vaccines and autism. A 2008 study even demonstrated no association between Measles vaccine

and the subtype of autism with gastrointestinal disturbances (enteropathy). The point is that parents with autistic children have no reason to fear that vaccinations caused the problem – they did not. The second point is that fear of autism should stop no parent from having a child vaccinated – the evidence of risk is not there.

**What about the SIDS link?**

The CDC has a helpful web page showing the evidence that there is no association between vaccinations and Sudden Infant Death Syndrome (SIDS). Furthermore, it reveals that a sharp decline in SIDS was achieved with the recommendation in the early 1990s that babies should sleep on their backs rather than their stomachs.

**Is tissue from aborted fetuses used in making vaccines?**

There are two human embryonic cell lines that were originally obtained from two fetuses aborted in the 1960s -- WI-38 (Winstar Institute 38) and MRC-5 (Medical Research Council 5) – which are used to grow certain virus strains used in some vaccines. In their paper, "Vaccines Whose Production is Associated with Embryonic Cell Cultures," experts from the Christian Medical & Dental Associations (CMDA) reported that they were “not aware of any vaccine whose production requires cell cultures from on-going abortions.” So, the only abortions in question happened over 40 years ago, and none since are known to have gone into vaccine manufacturing.

The same paper goes on to name specific vaccines made using the WI-38 and MRC-5 cell lines. These include some for varicella/chicken pox (Varivax), rubella/German measles (Meruvax II, MMR II), hepatitis A (Havrix, VAQTA), the hepatitis A & B combination (Twinrix), and rabies (Imovax). Alternatives for mumps (Mumpsvax), measles/rubeola (Attenuvax), and rabies (RavAvert) are available which do not use abortion-derived fetal or embryonic cells. Vaccines produced without abortion-derived human cell cultures include those for anthrax, diphtheria, DPT (diphtheria, tetanus, pertussis), Haemophilus B, hepatitis B, influenza, meningococcal meningitis, pneumococcal pneumonia, tetanus, typhoid, and yellow fever.

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22 [http://tinyurl.com/3vnulwn](http://tinyurl.com/3vnulwn)
23 [http://tinyurl.com/3vap63l](http://tinyurl.com/3vap63l)
The Vatican’s Pontifical Academy for Life authored a summary of their study on the issue entitled, “Moral Reflections on Vaccines Prepared From Stem Cells Derived From Aborted Human Fetuses” which comes to similar findings. Their detailed ethical and moral reasoning emphasizes the importance of calling on the pharmaceutical industry to find ethical alternatives to abortion-sourced tissue, but they also note, “... the burden of this important battle cannot and must not fall on innocent children and on the health situation of the population -- especially with regard to pregnant women.” The pregnancy reference concerns the very high risk of Congenital Rubella Syndrome in pregnant women exposed to rubella. They declare “there is a grave responsibility to use alternative vaccines,” but also state, “As regards the vaccines without an alternative” parents are “morally justified” in using these vaccines “for the good of one’s children and of the people who come in contact with the children -- pregnant women.” The Academy reminded all that this “should not be misinterpreted as a declaration of the lawfulness of their [these particular vaccines’] production, [and] marketing ... “.

In a statement titled, “Is Vaccination Complicit with Abortion?” Dr. Gene Rudd of the CMDA addresses the issue further. Dr. Rudd reminds us that medical science made use of information gleaned from Nazi experimentation on humans despite its evil origin. His point is that, at some level, redemption is considered: “While never condoning evil acts so that good may result, the Judeo-Christian tradition teaches of a loving God Who seeks to make good out of evil ... Though linked, participation in the good does not endorse the evil. Neither does one need to reject the benefits of vaccination (good) solely because of its past linkage with abortion (evil).” Dr. Rudd concludes that our “concern about the use of cell cultures linked to abortion ... should motivate the pharmaceutical industry to find morally acceptable alternatives.”

I look at the situation with another example. Suppose a child needs an organ transplant. A matching organ is found, and it is the only available and timely option for the child. It is then learned that the organ donor was a murder victim. Is accepting the organ the same as approving of the murder? No. As of yet, we similarly have no alternative to these certain vaccines produced in part with tissue derived from two pre-born children aborted nearly half a century ago. However, we can prayerfully petition the manufacturers and marketers to find ethical and life-honoring alternatives as swiftly as possible.

What if we cannot afford the vaccines?


25 http://tinyurl.com/3wdtrrx
If the price for immunizations is beyond your household means, contact the Vaccines for Children program to see if you qualify for free vaccines at http://www.cdc.gov/vaccines/programs/vfc/default.htm.

About the author:
Dr André Van Mol, MD is a board-certified family physician. His education included the University of Southern California, the Medical College of Wisconsin, Charleston Naval Hospital, and the Naval Aerospace Medical Institute. He is a former US Naval medical officer (family physician and carrier air wing flight surgeon). Dr. Van Mol is a diplomate of the American Board of Family Practice, and member of the American Academy of Family Physicians and the Christian Medical & Dental Associations (CMDA). Dr. Van Mol serves on the boards of Bethel Church (where he is also an elder), Moral Revolution (where he authors the “Ask the Doc” blog), PrayNorthstate, and iBranches (safe home for children victims of domestic minor sex trafficking -- DMST). He is experienced in short-term medical missions; and speaks and writes on bioethics and Christian apologetics. He and his wife, Evelyn, have three children.